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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,543	10/04/2000	Gerald J. Reeves	10002281-1	1137

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EXAMINER	
PARK, CHAN S	

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/680,543	REEVES ET AL.	
	Examiner	Art Unit	
	CHAN S. PARK	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-7 and 9-11* is/are rejected.

7)☒ Claim(s) *4,8 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DOUGLAS Q. TRAN
PRIMARY EXAMINER

Douglas Q. Tran

Chan S. Park

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20060817* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 6/12/06, and has been entered and made of record. Currently, **claims 1-12** are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 2, 5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "the pixel data associated with most of said pixels". The phrase "most of" renders the claim indefinite because the scope of the limitation is unclear. For example, does the "most of said pixels" mean 90% or 95% of the said pixels? What distinguishes the most of said pixels from the other pixels?

With respect to claims 2 and 9, arguments analogous to those presented for claim 1, are applicable.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: means for calibrating the array of sensors to distinguish the most of said pixels and the at least one of said pixels and means for setting an associated offset value equals to an associated gain value, wherein the values are set to be the maximum possible value of the tone levels. The current invention is directed to the system for compensating the defective pixels by (1) distinguishing the "good" and "bad" sensors, (2) indicating the "bad" sensors by setting the offset and gain values to extreme values (page 6, lines 13-18 of the Specification), and (3) compensating the pixel data associated with the "bad" sensors using one or more signals from neighboring sensors. However, the claim fails to recite the essential elements of the distinguishing and indicating/setting components. Without the distinguishing step/element, it is unclear whether the most of said pixels and the at least of the pixels are selected randomly. Furthermore, without the specific setting step, it is questionable as to whether the offset and gain values associated with the "bad" sensors will ever be the same. Clearly, the example provided by the applicant in the Specification states that those two cannot be the same unless they are set to be the same extreme values.

Moreover, the examiner notes that the offset and gain values must be set to the maximum possible value. Again, the current invention is directed to compensating only the "bad" sensors. If the function for the "bad" sensors used for the pixel data having the equal offset and gain values, the "good" sensor having the equal values (e.g. offset

and gain values having 100) will also be compensated according to the function used for the "bad" sensors. In other words, the equal value alone does not guarantee whether the pixel data is from the "bad" sensor or not. The value must be specific and extreme in that the "good" sensors, having the same gain and offset values, will never be compensated using the function for the "bad" sensors.

With respect to claim 9, arguments analogous to those presented for claim 1, are applicable.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: step of setting an associated offset value equals to an associated gain value, wherein the values are set to be the maximum possible value of the tone levels. Arguments are analogous to those presented for claim 1 above.

Due to the indefiniteness of the claim language, the rejections cited in the Office Action dated 4/6/06 are maintained and repeated in the Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Spivey et al. U.S. Patent No. 5,886.353 (hereinafter Spivey).

4. With respect to claim 1, Spivey discloses an image digitizing system comprising: a spatial array of sensors for converting a visual image to signals, each of said sensors providing a respective signal during an imaging operation (col. 15, lines 14-22); and

a signal converter for converting said signals into pixel data describing an array of pixels, each of said pixels being associated with a respective one of said sensors during the imaging operation (col. 4, lines 5-10), the pixel data associated with most of said pixels being a function of signals provided by the respective sensors during the imaging operation, the pixel data associated with at least one of said pixels during the imaging operation (col. 10, lines 25-54 & col. 15, lines 14-22), wherein for the at least one of said pixels (defective pixels) an associated offset value equals an associated gain value during the imaging operation, not being a function of a signal from the respective sensor during the imaging operation but being a function of one or more signals from neighboring sensors during the imaging operation (col. 11, lines 27-43).

5. With respect to claim 2, Spivey discloses the image digitizing system as recited in Claim 1 wherein multiple pixels are associated with each sensor so that:

for most sensors, all pixels associated with that sensor have values that are functions of the signal provided by that sensor (col. 4, lines 5-10 & col. 10, lines 25-54); and

for said least one sensor, all pixels associated therewith have values that are not functions of the signals provided by that sensor but are functions of signals provided by neighboring sensors (col. 11, lines 27-43).

6. With respect to claim 3, Spivey discloses the image digitizing system as recited in claim 2, wherein said signal converter comprises:

an analog-to-digital converter for converting said signals to signal data (col. 4, lines 5-10);

a data processor for converting said signal data to said pixel data (col. 11, lines 27-43); and

memory for storing sensor calibration values that said data processor uses in converting said signal data to said pixel data, said sensor calibration values being selected from a set of possible calibration values, most of said possible calibration values determining the function accordingly to which a pixel value is determined from the signal data from the signal from the associated sensor, a first of said possible calibration values indicating that the pixel value for the corresponding pixel is not to be a function of signal data from the associated sensor but a function of the signal data from a neighboring sensor (col. 11, lines 27-43).

7. With respect to claim 5, Spivey teaches the image digitizing method comprising:

calibrating an array of sensors so as to distinguish "good" and "bad" sensors during an imaging operation (col. 10, lines 25-54);

using said array of sensors to convert a visual image to signals during the imaging operation (col. 15, lines 14-22); and

converting said signals to image data including pixel values associated with an array of pixels during the imaging operation (col. 4, lines 5-10), each pixel corresponding to a respective one of said sensors during the imaging operation, pixel values associated with a good sensor being a function of the signal provided by that good sensor during the imaging operation (col. 10, lines 25-54 & col. 15, lines 14-22), pixel values associated with a bad sensor during the imaging operation, for which an associated offset value equals an associated gain value during the imaging operation, not being a function of the signal provided by that bad sensor during the imaging operation but being a function of at least one signal provided by a neighboring good sensor during the imaging operation (col. 11, lines 27-43).

8. With respect to claim 6, Spivey teaches the method as recited in claim 5 wherein said image data describes a series of raster lines, each of said raster lines including a series of said pixels (col. 12, lines 32-38), all pixels associated with said bad sensor having values determined not as a function of a signal provided by said pixel but as a function of said neighboring good sensor (col. 11, lines 27-43).

9. With respect to claim 7, Spivey teaches the method as recited in claim 6 wherein said converting step involves:

converting said signals into digital signal data (col. 4, lines 5-10); and

converting said digital signal data into said image data using sensor calibration values associated with respective ones of said sensors, said sensor calibration values being selected from a range of possible calibration values, said bad sensor being associated with a possible sensor calibration value that indicates that the corresponding pixel data is determined not as a function of its signal but as a function of the signal of said neighboring sensor (col. 11, lines 27-43).

10. With respect to claim 9, Spivey teaches the image-digitization method comprising the steps of:

using an array of sensors to generate a series of signals during an imaging operation (col. 15, lines 14-22); and

converting said signals into pixel data describing an array of pixels during the imaging operation, each of said pixels being associated with a respective one of said sensors (col. 4, lines 5-10), the pixel data associated with most of said pixels being a function of signals provided by the respective sensors during the imaging operation (col. 10, lines 25-54 & col. 15, lines 14-22), the pixel data associated with at least one of said pixels (defective pixel) during the imaging operation, wherein for the at least one of said pixels an associated offset value equals an associated gain value during the imaging operation, not being a function of a signal from the respective sensor during the imaging operation but being a function of a signal from a neighboring sensor during the imaging operation (col. 11, lines 27-43).

11. With respect to claim 10, Spivey teaches a method as recited in claim 9 wherein plural pixels are associated with each of said sensors so that for said at least one of said sensors none of the pixels associated therewith are described by pixel data that is a function of a signal associated with that sensor (col. 11, lines 27-43).

12. With respect to claim 11, Spivey teaches a method as recited in claim 10 wherein said converting step involves:

converting said signals into digital signal data (col. 4, lines 5-10); and

converting said digital signal data into said pixel data using sensor calibration values associated with respective ones of said sensors, said sensor calibration values being selected from a range of possible calibration values, at least one of said possible calibration values indicating a sensor for which the corresponding pixel data is determined not as a function of its signal but as a function of the signal of a neighboring sensor (col. 11, lines 27-43).

Allowable Subject Matter

13. Claims 4, 8 and 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S. PARK whose telephone number is (571) 272-7409. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chan S. Park
Examiner
Art Unit 2625
Chan S. Park

csp
August 17, 2006

DOUGLAS Q. TRAN
PRIMARY EXAMINER